NASA

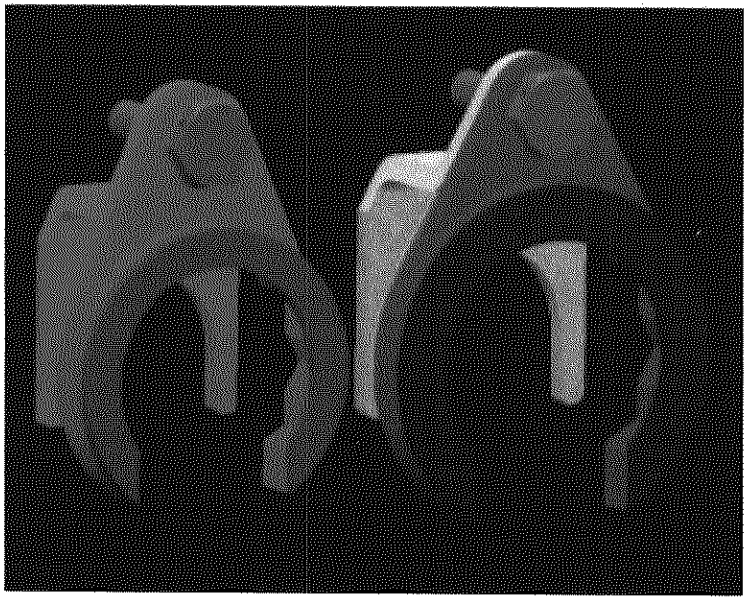
SECTION 31

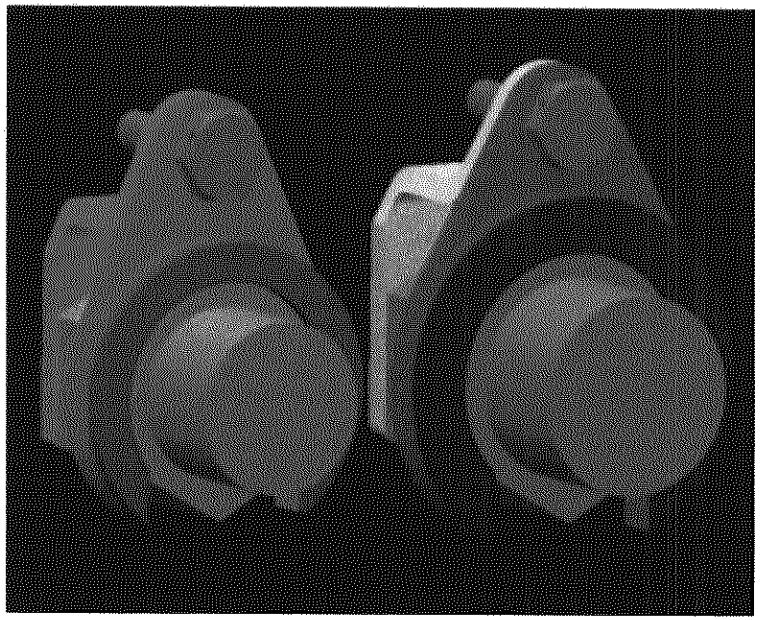
CONFIGURATION CHANGES AND CERTIFICATION STATUS

Presenter:

Organization/Date:
Orbiter 01/09/03

FRCS Dynatube B-nut Retainers Installed by MR: (Cont)





Approximate Dimensions: 2" height
1.5" width
0.65" depth

Weight of Assembly: 1.8 oz oxid, 1.45 oz fuel

Material: CRES 304

Bolt: NAS1003-2H

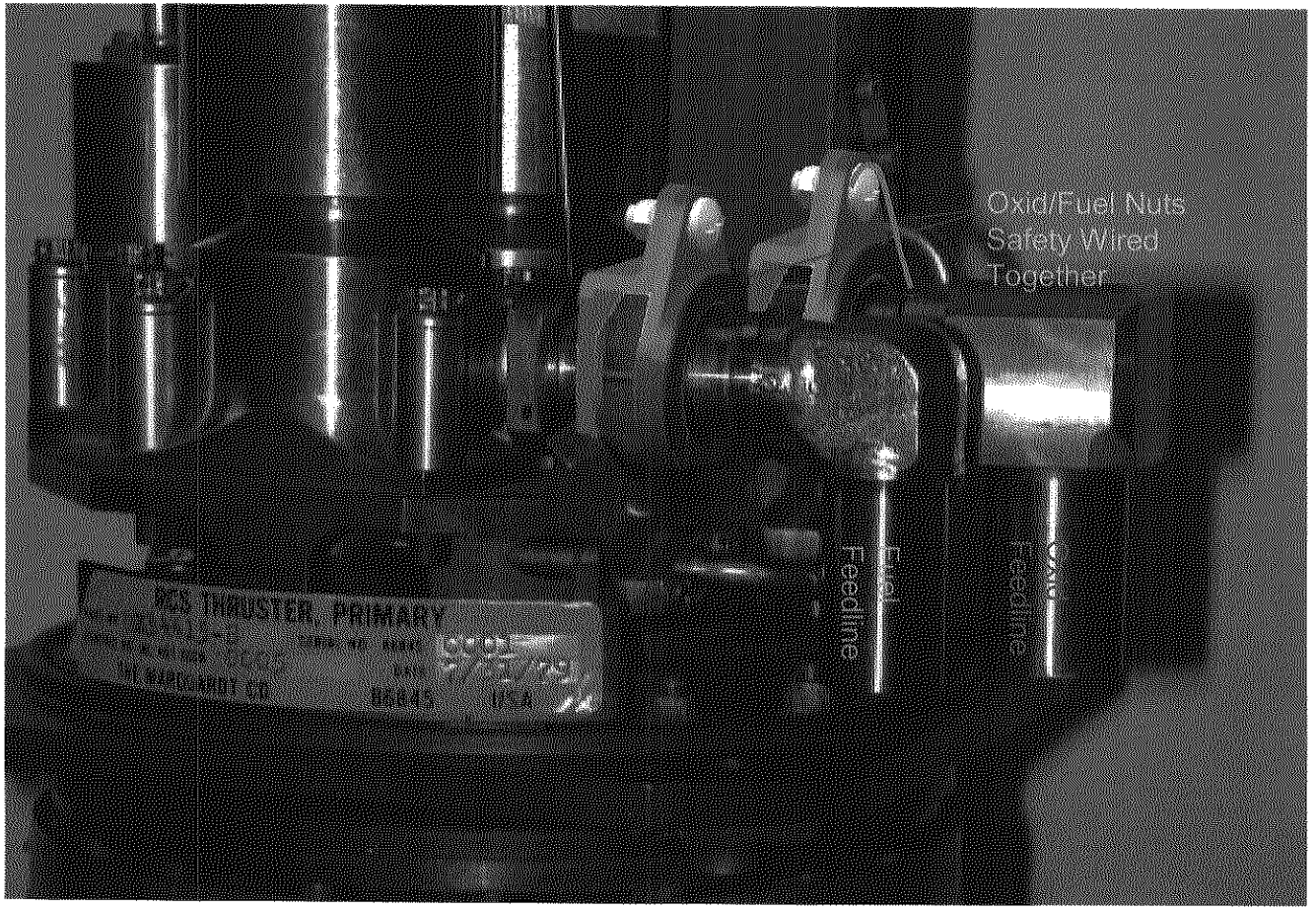
Nut: MD114-1001-0104

CONFIGURATION CHANGES AND CERTIFICATION STATUS

Presenter:

Organization/Date:
Orbiter 01/09/03

FRCS Dynatube B-nut Retainers Installed by MR: (Cont)



CONFIGURATION CHANGES AND CERTIFICATION STATUS	Presenter:
	Organization/Date: Orbiter 01/09/03

Left OME Pitch Clevis Mount Machined by MR Action in Order to Attach Pneumatic Pack:

- Original clevis mount on Orbital Maneuvering Engine (OME) S/N 116 not manufactured per print
  - The area where the pneumatic pack bracket attaches via two thru-bolts was inadvertently machined ~.021" oversize
  - PRT recommended replacement due to concerns with excessive play in the pneumatic pack bracket attachment and thinning of the clevis where it was machined
  - Replacement part was obtained from WSTF
- With new clevis mount installed, the pneumatic pack could not be attached due to misalignment of the bolt holes
  - Pneumatic pack attach structure also not per print - fillet radius too large, causing clevis mount tangs to contact fillet before bolt holes are in alignment

CONFIGURATION CHANGES AND CERTIFICATION STATUS	Presenter:
	Organization/Date: Orbiter 01/09/03

Left OME Pitch Clevis Mount Machined by MR Action in Order to Attach Pneumatic Pack: (Cont)

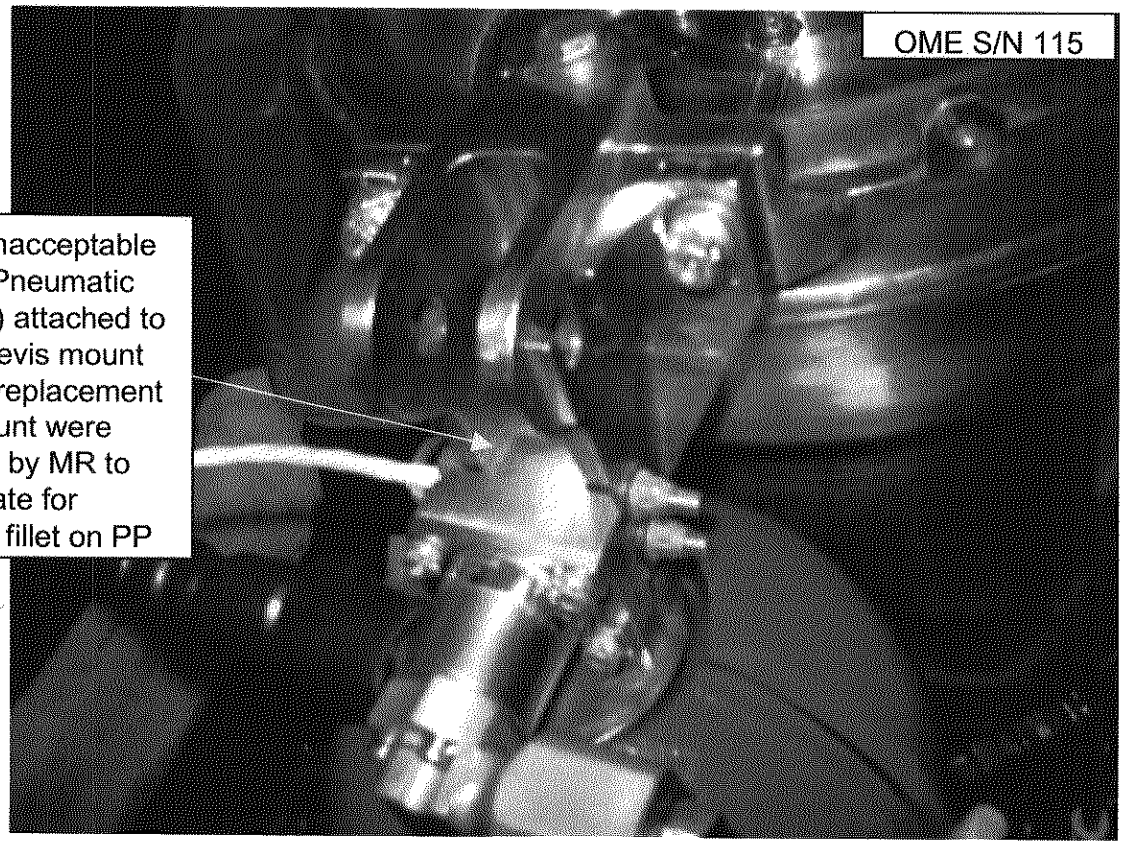
- Plan was developed to machine clevis tangs to compensate for oversized fillet (chamfer 0.08" off edges)
- Boeing/JSC Stress verified integrity of the clevis mount is not adversely affected
  - Chamfer does not protrude into bolt holes
- Measurements of both the removed part and the replacement part verified acceptable difference in pitch actuator mounting hole location without adjustment of actuator
- Travel and Response and Heat Shield Clearance checks were performed during OMS/RCS Flight Control Checkout (OMI V1238) with no anomalies

CONFIGURATION CHANGES AND CERTIFICATION STATUS

Presenter:

Organization/Date:
Orbiter 01/09/03

OME Pitch Clevis Mount (Actuator Not Installed)



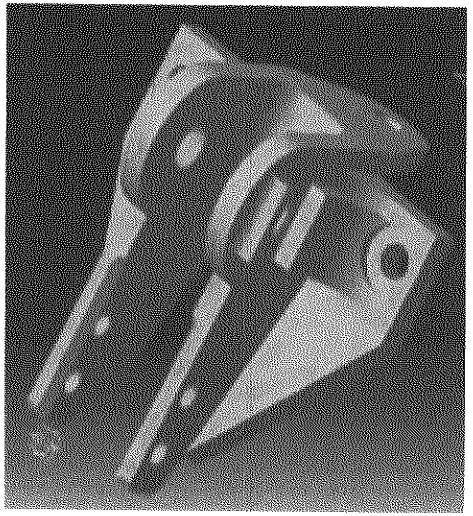
- Area of unacceptable gap with Pneumatic Pack (PP) attached to original clevis mount
- Tangs of replacement clevis mount were machined by MR to compensate for oversized fillet on PP

CONFIGURATION CHANGES AND CERTIFICATION STATUS

Presenter:

Organization/Date:
Orbiter 01/09/03

Modified (Chamfered) OMS Engine Pitch Clevis



Top view of pitch clevis modification
OMS engine S/N 116